

METHOD OF FABRICATING AN OXIDE LAYER ON A SILICON CARBIDE LAYER UTILIZING AN ANNEAL IN A HYDROGEN ENVIRONMENT

Abstract of the Disclosure

- 5 Silicon carbide structures are fabricated by fabricating a nitrided oxide layer on a layer of silicon carbide and annealing the nitrided oxide layer in an environment containing hydrogen. Such a fabrication of the nitrided oxide layer may be provided by forming the oxide layer in at least one of nitric oxide and nitrous oxide and/or annealing an oxide layer in at least one of nitric oxide and nitrous oxide.
- 10 Alternatively, the nitrided oxide layer may be provided by fabricating an oxide layer and fabricating a nitride layer on the oxide layer so as to provide the nitrided oxide layer on which the nitride layer is fabricated. Furthermore, annealing the oxide layer may be provided as a separate step and/or substantially concurrently with another step such as fabricating the nitride layer or performing a contact anneal. The hydrogen
- 15 environment may be pure hydrogen, hydrogen combined with other gases and/or result from a hydrogen precursor. Anneal temperatures of 400 °C or greater are preferred.